

DECIMALIZATION

Text of Testimony of Daniel G. Weaver, Ph.D.

before the House Commerce Committee

April 11, 1997

Stock pricing in decimals is the right thing to do. Decimals are easier to understand than eighths. Other than the securities industry pricing in the US is in decimals. I am aware of no securities market outside the US that uses non decimal pricing. The US securities industry should join the rest of the world and adopt decimal pricing.

Decimal pricing will result in reduced execution costs for American investors. Theoretical papers argue that tick size can act as a binding constraint on pricing. Consider a simple example. Assume you are a retailer who can buy a particular item for \$1. You estimate that the costs of doing business are such that you need to sell the item for \$1.15 to make a reasonable profit. Now assume that you are forced to price items in your store in eighths of a dollar. If you sell the item for \$1.125 you are losing money so you sell the item for \$1.25. All of your competitors have the same pricing constraint so none of them will underprice you. Customers are paying more than they should. If you were allowed to price in decimals then natural competition would force the item to sell for \$1.15 and consumers would save \$.10. The same analogy applies to securities. Decimal pricing will allow competition to reduce spreads resulting in consumers buying for less and selling for more.

As you know, the Toronto Stock Exchange adopted decimal pricing last year. Several years ago, the American Stock Exchange reduced the tick size on low-priced stocks from 1/8 to 1/16. Empirical studies of both events have concluded that spreads reduced following the reduction in minimum tick size. To the extent that actual market-making costs are a percentage of price, we would expect low-priced stocks to benefit the most from decimalization. Work that I have coauthored with David Porter of the University of Wisconsin-Whitewater entitled "Decimalization and Market Quality" has found this to be true for low-priced stocks listed on the TSE following the adoption of decimalization.

The TSE has two trading systems - a computerized system and a floor-based system. The TSE floor-based trading system is similar to the NYSE and AMEX trading systems, so I will confine my comments to changes we observed on the floor-based system. Quoted spreads reduced on the TSE

following decimalization. The greatest reduction, about \$.05, was found in stocks in the lowest price quartile of stocks. Stocks in the highest price quartile also experienced a decline but it was smaller in magnitude, about \$.02. Coincidental with the decline in spread, we observed a reduction in the number of shares offered or sought at the inside spread (known as depth). It has been suggested that this reduction in depth will result in large orders running through the book, or exhausting demand or supply at subsequent price levels causing a temporary widening of the spread and an increase in the variability of price. This would be bad for investors.

We examined price variability and found that either variability was unchanged or decreased for stocks on the TSE post decimalization. We believe that the reason that the reduction in quoted depth did not increase price variability was that providers of liquidity hide their true order sizes, but that actual liquidity did not change. On the TSE members can choose to reveal only a portion of their order to the public, but all orders must be on the book to have priority standing. On US exchanges there exists the notion of crowd liquidity or members holding orders rather than giving them to the specialist. The Toronto experience suggests that in the US we may see a reduction in quoted liquidity, but overall liquidity should not change.

The US securities industry has stated that they will lose money if markets decimalize. Due to the type of data we used in our study, we were able to analyze member profits pre and post decimalization. We found no statistically significant change in member profits. Also to the extent that member profits are derived from commissions, our finding that public volume went up following decimalization suggests that commission revenues in the US will rise following decimalization.

Finally, it has been suggested that decimalization will eliminate payment for order flow and internalization. Payment for order flow is not allowed in Canada but internalization is. We were able to examine the impact of decimalization on internalization. We found that decimalization had little or no impact on internalization. A special committee of the TSE was formed and charged with examining market fragmentation issues. One of the primary recommendations of the committee was that internalization be banned for orders of 1,200 shares or less. The US may want to consider imposing a ban on payment for order flow and internalization, since decimalization will have little impact on either.

In conclusion, I strongly urge passage of the Common Cents Stock Pricing Act of 1997. It will greatly benefit investors and will not adversely affect members of the securities industry.